

A New Species and Review of *Sibaria* (Hemiptera: Pentatomidae)

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Abstract: The genus *Sibaria* is redefined, a diagnosis given for the two species previously known, and *S. englemani* new species, which ranges from Mexico to Colombia, is described.

Sibaria is distinguished among American genera of Pentatomini by the unique combination of armed femora and a short rostrum. A pair of preapical spines, of considerable size on the anterior femora at least, constitute the principal femoral armament; and the rostrum terminates distally at or just beyond the mesocoxae rather than at or beyond the metacoxae as is usual in the tribe.

Three species of *Sibaria* are known: *S. armata*, inhabiting much of South America, *S. andicola*, collected in Bolivia, Ecuador and Peru, and a species ranging from southern Mexico into Colombia. The latter species has been confused with *S. armata* and until now has been unnamed.

A generic description, key to the species, description of the new species and diagnoses of the other two follow. The three species are so much alike that a description of more than one would be largely redundant.

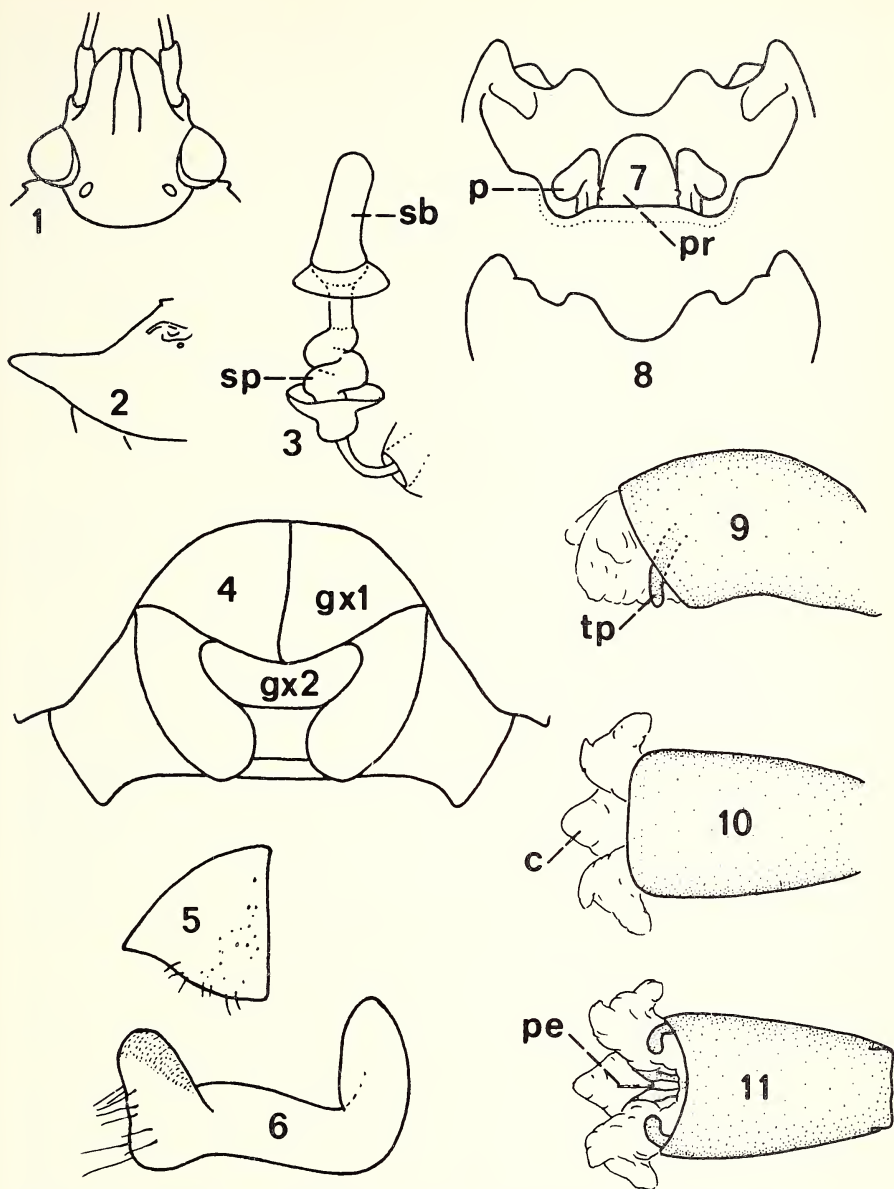
Sibaria Stål, 1872

Sibaria Stål, 1872, Sv. Vet. Ak. Handl. 10(4):23.

Eyes large, together about as wide as interocular distance (Fig. 1); width of head little greater than length; juga subequal in length to tylus, their lateral margins narrowing

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Depositories for paratypes are designated as follows: Akademie der Landwirtschaftswissenschaften (AL), American Museum of Natural History (AMNH), British Museum (Natural History) (BMNH), California Academy of Sciences (CAS), R. D. Engleman collection (RDE), Field Museum of Natural History (FMNH), author's collection (LHR), Museu Rio Grandense de Ciencias Naturais (MRCN), Naturhistoriska Riksmuseum, Stockholm (NR), Rijksmuseum van Natuurlijke Historie (RNH), Texas A & M Univ. (TAMU), U.S. National Museum (USNM), Universidad Nacional de La Plata (UNLP), Washington State Univ. (WSU).



FIGS. 1-11. *Sibaria englemani* n. sp. Fig. 1. Head. Fig. 2. Pronotum. Fig. 3. Distal portion of spermatheca; spermathecal bulb (sb), spermathecal pump (sp). Fig. 4. Genital plates, viewed with anterior and posterior margins of last sternite on same focal plant; first gonocoxa (gx 1), second gonocoxae (gx 2). Fig. 5. First gonocoxa, viewed with three angles on same focal plant. Fig. 6. Right paramere. Fig. 7. Genital cup; paramere (p), proctiger (pr). Fig. 8. Posterior margin of pygophore, ventral view. Fig. 9. Theca and related structures, lateral view; thecal process (tp). Fig. 10. Same, dorsal view; conjunctiva (c). Fig. 11. Same, ventral view; penisfilum (pe).

rapidly before eyes, exposing antenniferous tubercles from above; distal end of first antennal segment reaching apex of head. Pronotum contiguous with eyes; anterolateral margins entire, obtusely rounded vertically. Scutellum as long as wide; frena extending along basal two-thirds. Costal angle of coria acute, surpassing scutellar apex by about one-third length of scutellum.

Bucculae roundly truncate at base of head, extending to distal end of first rostral segment; apex of rostrum reaching or just surpassing mesocoxae. Sterna neither sulcate nor carinate along meson excepting low broad mesosternal carinae produced notably only near anterior mesosternal margin. Inferior surface of femora armed with stout pair of preapical spines and pair of tubercles basad of spines, these often reduced progressively on middle and posterior femora, the latter then armed only with preapical pair of tubercles (Fig. 22); all tibiae sulcate. Abdomen without basal spine or tubercle.

Tubercles of proctiger nearer base than apex (Fig. 21). Thecal processes arising within theca, compressed, curving ventrad (Figs. 9, 18, and 26); penisfilum lying on median vertical plane, surrounded by median penial lobes.

Spermathecal pump convoluted; spermathecal bulb digitiform (Figs. 3 and 15).

Type species: Mormidea armata Dallas, 1851, by monotypy.

Relationship: The form of the aedeagus and spermatheca, as well as the armament of the proctiger and femora, suggest a close phylogenetic relationship between this genus and *Ladeaschistus* Rolston, 1973.

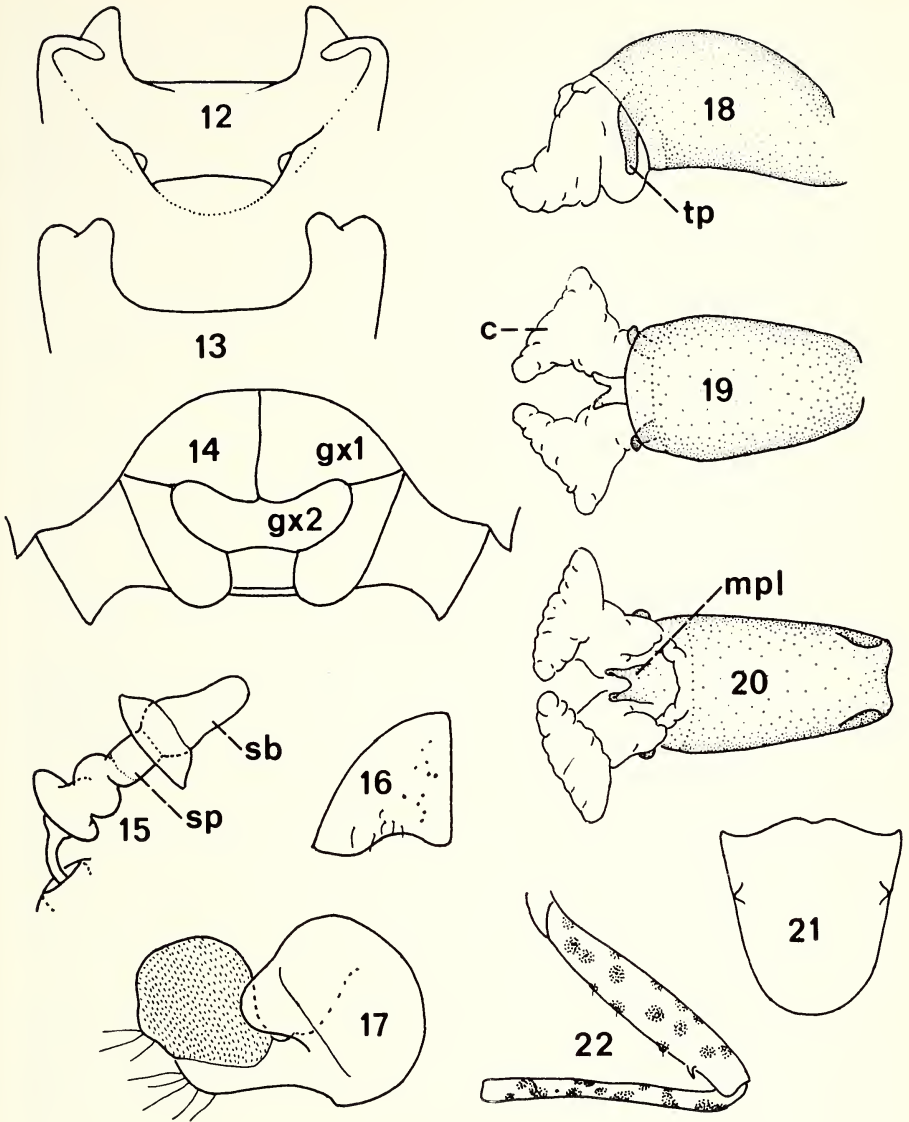
Key to the Species

1. More than basal half of fifth antennal segment pale *S. andicola* Breddin
- 1' Less than basal half of fifth antennal segment pale
2. Median emargination in posterior edge of pygophore broad, deep, subquadrate, flanked on each side by stout tubercle projecting caudad beyond posterolateral angles of pygophore (Figs. 12 and 13); first gonocoxae (basal plates) each concavely emarginate posteriorly at lateral limit of second gonocoxae (Figs. 14 and 16) *S. armata* (Dallas)
- 2' Median emargination in posterior edge of pygophore little wider than proctiger, flanked on each side by shallower bisinuate emargination (Figs. 7 and 8); posterior margin of each first gonocoxae sinuous, without emargination at lateral limit of second gonocoxae (Figs. 4 and 5) *S. englemani* n. sp.

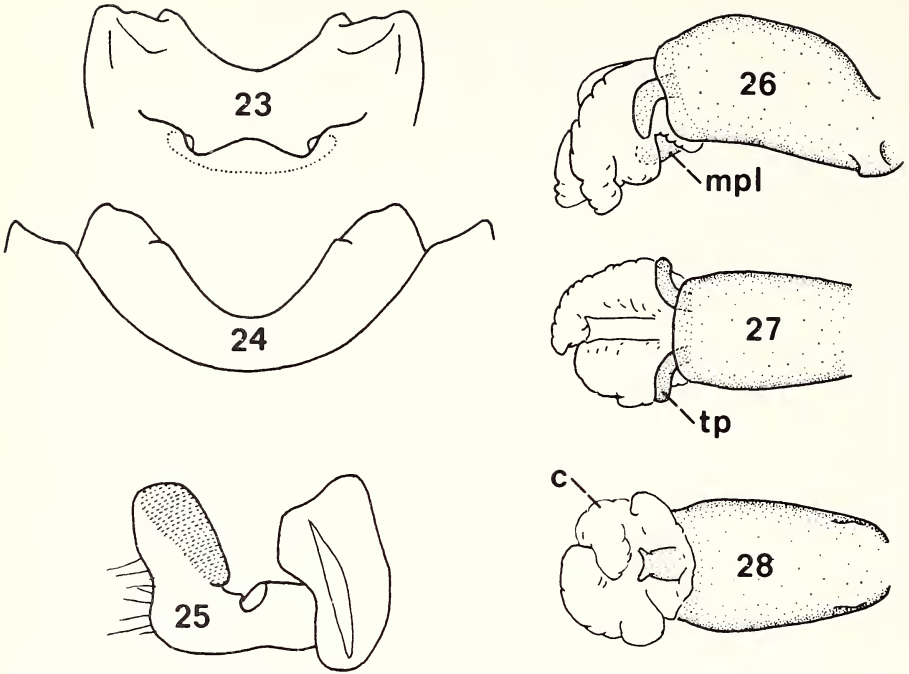
Sibaria englemani, n. sp.

Sibaria armata; Distant, 1880-1890, p. 57 (in part), Pl. 5, fig. 17 (1880) and p. 329 (1890) (misidentification); Lethierry and Severin, 1893, p. 126 (in part); Kirkaldy, 1909, p. 62 (in part).

Overall light brown to fuscous above with black humeri, yellowish white beneath; punctuation of dorsum rather dense, black, on pronotum and scutellum arranged mostly in irregular rows with a general transverse orientation; usually eight pale spots on dorsum, one along posterior margin of each cicatrice near mesial limit, three along base of scutellum, one of these mesial and one beside small black fovea in each basal angle (some or all occasionally obscure), a spot on apex of scutellum, another on each corium near distal end of radial vein. Antennae mostly black, ventral and mesial surfaces (except distally) of first segment, basal ring on segments three and four, basal .2 to .4 of segment five, and sometimes longitudinal streaks on segments two and three, pale; length of segments 0.4 to 0.5; 0.8 to 0.9; 0.9 to 1.1; 1.5 to 1.8; 1.5 to 1.7 mm; width of head across eyes 1.8 to 2.0 mm, length 1.6 to 1.7 mm. Humeri acutely produced laterad and somewhat cephalad (Fig.



FIGS. 12-22. *Sibaria armata*. Fig. 12. Genital cup, parameres and proctiger removed. Fig. 13. Pygophore, ventral view. Fig. 14. Genital plates; first gonocoxa (gx 1), second gonocoxae (gx 2). Fig. 15. Distal portion of spermatheca; spermathecal bulb (sb), spermathecal pump (sp). Fig. 16. First gonocoxa, viewed with three angles on same focal plant. Fig. 17. Right paramere. Fig. 18. Theca and related structures, lateral view; thecal process (tp). Fig. 19. Same, dorsal view; conjunctiva (c). Fig. 20. Same, ventral view; median penal lobe (mpl). Fig. 21. Proctiger. Fig. 22. Posterior face of right front femur and tibia.



FIGS. 23-28. *Sibaria andicola*. Fig. 23. Genital cup, parameres and proctiger removed. Fig. 24. Posterior margin of pygophore, ventral view. Fig. 25. Right paramere. Fig. 26. Theca and related structures, lateral view; median penal lobe (mpl). Fig. 27. Same, dorsal view; thecal process (tp). Fig. 28. Same, ventral view; conjunctiva (c).

2); pronotal width at humeri 7.3 to 8.3 mm, length at meson 2.3 to 2.7 mm. Scutellar width 3.2 to 3.6 mm, length subequal; apex narrowly rounded. Boundary of coria and their membrane slightly sinuous; membrane fuscous, veins simple or bifurcate, varying considerably in number. Connexiva narrowly exposed; punctation dense, fine; color pale at sutures and in subquadrate marginal area in middle of each segment, otherwise dark; posterior angle of each segment produced as small acute spine.

Venter of head punctate only along bucculae, immaculate but for fuscous mark extending from eye over superior surface of antenniferous tubercle and continuing briefly cephalad. Pleura impunctate in irregular areas, most consistently so laterad of procoxae. Evaporative area on each side matte, sparingly rugose, extending about halfway from ostiole toward lateral margin of metapleuron. Legs with large fuscous spots and maculae. Abdominal venter sparsely and weakly punctate about spiracles and large subspiracular callouses, otherwise virtually impunctate; black edge of lateral margins interrupted in middle of each segment.

Posterior edge of pygophore pentasinuate, with a deep median concavity about as wide as proctiger and on each side two lesser concavities (Figs. 7 and 8); margin between lateral and median concavities expanded, this portion dorsad of intermediate convexity and with elongate black impression. Anterolateral margins of genital cup produced near apex of parameres, concealing from above a thin subvertical carina on wall of genital cup. Head and base of parameres bent rather abruptly from lateral view, shaft entire (Fig. 6).

Conjunctiva trilobed, a small median lobe above median penal lobes and bifid lateral lobes (Figs. 9, 10 and 11).

First gonocoxae each evenly sinuous along posterior edge, without emargination above lateral limits of second gonocoxae (Figs. 4 and 5), *Types*: Holotype. Male, labeled Panama, Gatun Dam, 2-IX-1973, D. Engleman, Coll. Deposited in U.S. National Museum, type no. 72134.

Paratypes: 33 ♂♂, 23 ♀♀. *Colombia*: (a) Magdalena, 11°10'N, 76°08'W, Apr. 1973, 800M, M. Madison, Coll. (b) on piper. (♀ AMNH; ♂ BMNH; 2♂♂, ♀ LHR; ♂, ♀ MRCN, ♂, ♀ UNLP). *Costa Rica*: (a) Dec. 20, 1949, Darwin Norby. (b) Finca Los Cusingos, San Isidro del General, Quizarra. (♀ WSU); Collection Schild-Burgdorf, San Carlos (♀ USNM); (a) Turrialba, (b) Tukurriquel (♀ USNM). *El Salvador*: No. 71458, 10.23.56, Santa Tecla, Col. PAB. (♂ USNM). *Guatemala*: (a) Morales, Jan. 1930, J. J. White. (b) 103 (c) J. C. Lutz Collection, 1961. (♀ USNM). *Mexico*: Tolosa, Oaxaca, Aug. 25, 1947, B. Malkin. (♂ AMNH). *Panama*: (a) Bugaba, 800-1500 ft., Champion. (b) Ex Godman and Salvin. (♂ AMNH); (a) as above (b) P. R. Uhler Collection (c) *Sibaria armata*. (♂ USNM); Cerro Campina, 800M, Panama Prov., 1 July 72, Coll. D. Engleman (♂ RDE); (a) Portobella, 18.4.12, Pan. (b) A. Busch Coll. (♂ USNM). *Panama Canal Zone*: Barro Color., V-5-37 (♀ USNM); Barro Colorado So., VII-8-33 (♂ USNM); Coco Solo Hospital, 9°21'N, 79°51'W, 28-I-73, Engleman. (♀ RNH); (a) Corozal, I-21-1929 (b) Collector, C. H. Curran. (♂ AMNH); Fort Kobbe, 8°54'N, 79°35'W, 22-IX-73, Col: D. Engleman (♀ AL); Ft. Sherman, 30 July 72, Coll: Engleman, (♀ RDE); Fort Sherman, 9°20'N, 79°58'W, 2 June 73, Col: D. Engleman. (♀ BMNH; 3 ♂♂ RDE); Galeta Is., 9°32'N, 79°53'W, 30-VIII-73, Col: D. Engleman. (♀ FMNH; ♂ RDE; ♀ TAMU); 5 mi. E. Gamboa, 1 Oct. 72 (♂ RDE); same data as holotype (♂, ♀ CAS; 4 ♂♂ LHR); Gatun Spillway, 9°20'N, 79°58'W, 2 June 73, Col: D. Engleman. (3 ♂♂ RDE, ♂ RNH); Madden Reservoir, 29-IX-73, Col: D. Engleman. (♂ RDE); Margarita, 25-28-X-1972, L. H. Rolston. (♂ AL; ♂ FMNH; ♂ LHR; ♂, ♀ NR; ♂ TAMU); Pipeline Road, 2 January 72, Col: D. Engleman. (3 ♀♀ RDE); Piña Road, 9°15'N, 79°57'W, 2-IX-73, Col: D. Engleman. (3 ♀♀ RDE).

Distribution: From Vera Cruz, Mexico, to Magdalena, Colombia. The southern distribution may prove more extensive when northwestern South America is better collected.

Comments: Distant mistook this species for its common South American congener, and all of his records of *S. armata* in Middle America pertain to *S. englemanni*, as does his illustration of a specimen from Guatemala.

Adult specimens have been taken feeding on the inflorescence of piper plants in Panama and Colombia.

This species is named with pleasure for R. Dodge Engleman, M.D., whose interest in biology extends beyond medicine and continues a tradition that has contributed much to the systematics of insects.

Sibaria armata (Dallas, 1851)

Mormidea armata Dallas, 1851, p. 125; Walker, 1867, p. 255.

Sibaria armata; Stål, 1872, p. 23; Distant, 1880, p. 57 (in part); Lethierry & Severin, 1893, p. 126 (in part); Van Duzee, 1901, p. 344 (list); Kirkaldy, 1909, p. 62 (in part); Becker & Grazia-Vieira, 1971, p. 20 (list).

From none to basal. 40 of fifth antennal segment pale.

Emargination in posterior edge of pygophore deep, wide, subquadrate, flanked on each

side by tubercle projecting posteriorly beyond posterolateral angle of pygophore (Figs. 12 and 13). Small tubercle beneath production on anterolateral margins of genital cup partially visible from above. Reticulate face of parameres ovoid, shaft incised shallowly near head, base greatly expanded and crested on ventral face (Fig. 17). Lateral conjunctival lobes each with ventral diverticulum near base and toward apex a second diverticulum directed obliquely mesad, the opposed apical diverticula overlapping when fully inflated; median conjunctival lobe small, bifid; thecal processes largely concealed except from lateral view (Figs. 18, 19 and 20).

Posterior edge of first gonocoxae concavely emarginate at lateral limits of second gonocoxae (Figs. 14 and 16).

Distribution: Probably present throughout most of South America. Recorded or seen from Argentina (Misiones), Bolivia, Brazil, Ecuador, French Guiana, Guyana, Paraguay, Peru, Surinam, Trinidad, and Venezuela.

Comment: The pale basal ring on the fifth antennal segment of a minority of specimens does not seem characteristic of any region since specimens so marked came from widely separated places: Guyana, Bolivia, Brazil and Paraguay.

This species has been reared on the inflorescence of piper.

Sibaria andicola Breddin

Sibaria andicola Breddin, 1904, p. 49; Kirkaldy, 1909, p. 62; Gaedike, 1971, p. 79.

Basal .60 to .85 of fifth antennal segment whitish, apex dark.

Posterior edge of pygophore arcuately concave with short posteriorly directed projection on each side nearer lateral angles than meson (Figs. 23 and 24); pygophoral margin at projection somewhat expanded, not impressed. Carina beneath production on anterolateral margins of genital cup oblique, directed posteroventrally from production. Shaft of parameres incised near head; base crested on ventral face (Fig. 25). Median lobe of conjunctiva quite long, each lateral lobe diverticulate ventrally (Figs. 26, 27 and 28).

Genital plates of female as in *S. armata*.

Distribution: Known so far from the eastern slopes of the Andes: Napo province in Ecuador; Amazonas, Cusco and Huanuco departments in Peru; and El Beni department in Bolivia.

Comment: No distinction between females of *S. andicola* and *S. armata* has been found other than the proportion of pale to dark color on the fifth antennal segment. This proportion varies in both species and too few specimens of *S. andicola* are available to establish useful confidence limits on variability. The reliability of this character in separating all females of the two species is therefore suspect. In describing *S. andicola*, Breddin mentioned the darker dorsum and obscurity of the pale dorsal spots relative to *S. armata*, but neither the general color nor clarity of the spots are diagnostic.

In the few specimens examined, the femoral spines are reduced on the middle femora and represented by small tubercles on the posterior femora.

A single specimen lacking the fifth antennal segments, in the British Museum (Natural History), is apparently this species, but it differs from the males of the type series in having the projections on the pygophoral margin more prominently developed.

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ADDENDUM: Since the author of "A new genus and two new species of Achipteriidae from New York State (Acari: Cryptostigmata; Oribatei)" in Vol. 82: pp. 177-182 of the *Jour. N.Y. Ent. Soc.* failed to indicate a type species for the genus *Dentachipteria* he wishes to correct this by designating *Dentachipteria ringwoodensis* as the type species. He wished to thank Dr. M. D. Definado of the N.Y. State Museum and Science Service for bringing this to his attention.